

```
function d0pt = optDstb(obj, ~, ~, deriv, dMode)
% d0pt = optCtrl(obj, t, y, deriv, dMode)
% Dynamics of the DubinsCar
% \dot{x}_1 = v * cos(x_3) + d_1
% \dot{x}_2 = v * sin(x_3) + d_2
% \dot{x}_3 = u

%% Input processing
if nargin < 5
    dMode = 'max';
end

if ~iscell(deriv)
    deriv = num2cell(deriv);
end

d0pt = cell(obj.nd, 1);

%% TODO
% Compute the optimal disturbance
% min { alpha) deriv(1) * 0.8 cos alpha + deriv(2) * 0.8 sin alpha
params = get_params();

alpha = atan2(-deriv{2}, -deriv{1});
d0pt{1} = obj.dMax * cos(alpha); % Compute the optimal disturbance in x
d0pt{2} = obj.dMax * sin(alpha); % Compute the optimal disturbance in y

end
```